



FIG. 1. Comparisons of mean ( $\pm$ SE) *Coreopsis gigantea* wing widths, seed widths and achene lengths for island (Bird Rock) and mainland (Zuma Beach) populations.

10:276–289, 1984) and on all of the Channel Islands (Junak et al., A flora of Santa Cruz Island, Santa Barbara Botanic Garden, 1995). In order to more fully understand these apparent differences in island and mainland achene morphologies and their relevance to dispersal and fitness, a more comprehensive and detailed examination of *C. gigantea* achenes (collected from several Channel Island and mainland locations) is currently underway.

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THE IDENTITY OF THE NAME *LUDWIGIA SCABRIUSCULA* KELLOGG.—Shirley Graham, Department of Biological Sciences, Kent State University, Kent, OH 44242 and David Keil, Biological Sciences Department, California Polytechnic State University, San Luis Obispo, CA 93407.

The identity of the name *Ludwigia scabriuscula* Kellogg (Proc. Calif. Acad. Sci. 7:78. 1876) has apparently been somewhat a mystery since shortly after the species was described. No type material is known in BM, CAS, GH, UC, or US where Kellogg collections might be found and the description, although detailed, is problematic. It does not apply unambiguously to *Ludwigia* (Onagraceae) or any similar genus. Within four years of publication, the species was synonymized under *Ammannia latifolia* L. (Lythraceae) by Sereno Watson, who qualified his decision with the word “apparently” (Bot. Calif. 2:447. 1880). Mary Curran (Bull. Cal. Acad. Sci. 1:128–151. 1884) in reviewing the Kellogg species, accepted the synonymy without comment. It is possible that she did not see authentic material because the existence of some Kellogg types was already questionable at that time. Emil Koehne, monographer of *Ammannia*, saw no specimens of *Ludwigia scabriuscula*. He accepted Watson’s synonymy in “Lythraceae of the United States” (Bot. Gaz. 10:269. 1885) and later in his monograph of the Lythraceae (*Das Pflanzenreich* IV. 216:50. 1903).

Graham (J. Arnold Arbor. 66: 418. 1985) excluded *L. scabriuscula* from the synonymy of *A. latifolia* on morphological and geographical grounds. No *Ammannia* are known to have an inferior ovary (inferred by the generic assignment), scabrous

minutely-toothed leaves, long-clawed petals, or 4-lobed stigmas. The style, which is described as twice as long as the floral tube ("calyx"), is practically non-existent in *A. latifolia*, although it is long in some other species of *Ammannia*. Further, the presence of *A. latifolia* in California has never been verified. Its distribution is primarily circum-Caribbean with extensions northward along the Atlantic Coast and with a few disjunct sites in South America.

Several taxonomists including Bruce Bartholomew, Barbara Ertter, Peter Raven, and others with an extensive knowledge of the California flora, have considered with us whether any known genera match the Kellogg description. All agree that *Ammannia* remains the best choice. Features from the protologue of *L. scabriuscula* that match *Ammannia* are: stems slightly angled, leaves sessile, opposite, entire, oblong-linear, subcordate; flowers axillary, 6–9 whorled at a node, eight-angled with secondary teeth (in *Ammannia* these are the lobes of the epicalyx); and subquadrangular, ovoid capsules with reddish brown, obovate, minutely striated seeds. The habitat along muddy margins of streams and lakes is typical of *Ammannia*.

Two species of *Ammannia* occur in California. Both have long, slender styles. *Ammannia coccinea* Rottb. is an erect plant distinguished by 3–12-flowers per axil on distinct pedunculate cymes and deep rose-purple petals. *Ammannia robusta* is often decumbent with long basal branches, 1–3 sessile or subsessile flowers per axil, and pale lavender to nearly white petals. Watson would not have been familiar with *A. robusta* because, although it was present in California in the 1800s (e.g., Cache Creek, *Bolander in 1864* UC; Tulare Lake, 1877, *Lemmon 1402* GH; Los Angeles Co., 1889, *Hasse s.n.* CAS; Sacramento Co., 1893, *Jepson 14083* JEPS), it was not generally recognized as distinct from *A. coccinea* until 1985.

Morphological discrepancies in the description of *Ludwigia scabriuscula* with respect to *Ammannia* are judged to be erroneous observations. Scabulose, "obsoletely-toothed" leaves are probably the result of dessication which brings interior crystals into slight surface relief on herbarium specimens. The ovary was likely misinterpreted by Kellogg as inferior due to the closely investing, persistent floral tube. Of the two possible choices in *Ammannia*, *A. robusta* Heer & Regel (Index Sem. Horto Bot. Turic. adn. 1. 1842) most closely matches the description of *L. scabriuscula* by its basal branching, flowers few at the nodes, and pale petals. We therefore refer the name *Ludwigia scabriuscula* to the synonymy of *Ammannia robusta*. The nomenclature is not affected by this taxonomic decision because the name *A. robusta* predates the *Ludwigia* epithet.